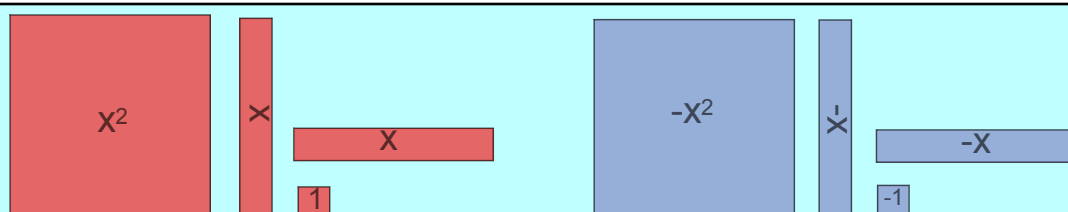


L7(4.4) Factoring Complex Trinomials ($ax^2 + bx + c, a \neq 1$)

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Factor: $3x^2 + 7x + 2$

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x^2

\times

x

1

$-x^2$

\times

$-x$

-1

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x^2

\times

x

1

$-x^2$

\times

$-x$

-1

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Factoring Complex Trinomials ($ax^2 + bx + c$, $a \neq 1$)

Expand $(x + 4)(2x + 3)$. What are the x-terms?

$$(x + 4)(2x + 3) = 2x^2 + 3x + 8x + 12$$

$$= 2x^2 + 11x + 12$$

To factor $2x^2 + 11x + 12$, we need to do these steps in reverse order.

How do the numbers 3 and 8 relate to 2, 11, and 12?

$$3 + 8 = 11$$

$$3 \times 8 = 2 \times 12 = 24$$

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Once you have broken the middle term, you can factor by grouping

$$2x^2 + 11x + 12 = 2x^2 + 3x + 8x + 12$$

=

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Ex. Factor $6m^2 + 13m - 5$

Numbers multiply to: _____ (product)

Numbers add to: _____ (sum)

Numbers are:

_____ and _____ (integers)

This technique is called SPI
(sum, product, integers)

Product of _____
Sum _____

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Ex. Factor $6m^2 + 13m - 5$

Numbers are: **-2** and **15**

Now factor by grouping:

$$6m^2 + 13m - 5 =$$

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Ex. Factor: $10x^2 - 11x - 6$

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Assigned Work:

p.223-224 #3bc, 5abc, 6,
#7abc, 11, 15, 17(Challenging)

Look for common factors first!!!

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